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| APPLICATION NO.                          | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/773,125                               | 02/05/2004  | Sharon A. Elsworth   | RTN-194AUS          | 3259             |
| 33164                                    | 7590        | 07/27/2006           | EXAMINER            |                  |
| RAYTHEON COMPANY                         |             |                      | MATZEK, MATTHEW D   |                  |
| C/O DALY, CROWLEY, MOFFORD & DURKEE, LLP |             |                      | ART UNIT            | PAPER NUMBER     |
| 354A TURNPIKE STREET                     |             |                      | 1771                |                  |
| SUITE 301A                               |             |                      |                     |                  |
| CANTON, MA 02021                         |             |                      |                     |                  |

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                               |                     |
|------------------------------|-------------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b>        | <b>Applicant(s)</b> |
|                              | 10/773,125                    | ELSWORTH ET AL.     |
|                              | Examiner<br>Matthew D. Matzek | Art Unit<br>1771    |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 15 May 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-7 and 19-22 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-7 and 19-22 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 05 February 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

*Response to Amendment*

1. The amendment dated 5/15/2006 has been fully considered and entered into the Record. Claims 8-18 have been canceled and claims 1-7 and 19-22 are currently active. The previously applied obvious double patenting rejection has been withdrawn due to amendment. The previously applied art rejections of claims 1-7 and 22 have been withdrawn due to amendment. Claims 1 and 19 have been amended to further limit the fabric layer structure and that the fabric layer has an impregnant and claim 22 is now dependent upon claim 19 rather than canceled claim 18. Claims 19-21 are rejected in the same manner as in the previous Office Action. Claim 19 is now an independent claim. The previously applied 112 2<sup>nd</sup> rejections have been withdrawn due to amendment.

*Claim Rejections - 35 USC § 103*

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-7 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cain et al. (US 3,673,611) in view of Habib (US 4,144,027).

a. Cain et al. teach a molded hat having improved shape retention and recoverability properties comprising a laminate of two or more layers of fabric (Abstract and col. 6, lines 25-29). The layers of the laminate are attached via polymeric adhesive (col. 6, lines 30-36). The layers of fabric have been impregnated with isocyanate reaction product may be applied to the fabric in pre-polymer form (col. 3, lines 45-47). This results in impregnated fibers that are coated on each side with the impregnation compound. The fabric may be made of keratin fibers (claim 1). The article of Cain et al is silent as to the

use of a co-reactant curative and a curative stoichiometry range of less than 85 percent in the impregnating composition.

b. Habib teaches the modification of keratin fibers to reduce their relaxation and felting shrinkage (i.e. shape retention) (Abstract). This may be accomplished via a urethane prepolymer of isocyanate (col. 4, lines 1-5). Solvents such as toluene may be used as a diluent (col. 10, lines 14-38). The modification of the fibers occurs through their impregnation (col. 18, lines 3-8). The term "curative stoichiometry range" refers to the molar ratio of -NCO groups to the total active hydrogen atoms. The molar ratio of -NCO groups to the total active hydrogen or curative stoichiometry range can be as low as 0.6 and in Example XI, Table VI the values go as low as 0.40. In compositions of Examples IV and VIII the pre-polymer is in an amount of 100.0 parts of weight.

c. Since Cain et al. and Habib are from the same field of endeavor (i.e. fabric treatments to improve the shape retention and integrity of the fabric article), the purpose disclosed by Habib would have been recognized in the pertinent art of Cain et al.

d. It would have been obvious at the time the invention was made to have impregnated the article of Cain et al. with the composition of Habib, i.e. replace the composition of Cain et al. with that of Habib. The skilled artisan would have been motivated by the desire to provide the impregnating composition of Cain et al. with the co-reactant curative of Habib motivated by the desire of providing an impregnant that provides the optimized shape retention and handle (col. 11, lines 50-53) as taught by Habib. These properties are not available without the additional co-reactant of Habib.

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e. Habib teaches pre-polymer in the amount 100.0 parts by weight of the impregnation compound (Examples XIX) and teach a co-reactant (QUADROL®) in the amount of 17.4 parts by weight. Table VI shows that by increasing the NCO/OH ratio (co-reactant/pre-polymer) the area shrinkage may be decreased. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the impregnant of Habib with co-reactant curative in an amount of 26.1 parts by weight motivated by the desire to decrease the amount of shrinkage, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

***Response to Arguments***

3. Applicant's arguments filed 5/15/2006 have been fully considered but they are not persuasive.
4. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Matzek whose telephone number is (571) 272-2423. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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